S/N To be assigned PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Henriksson	Serial No.:	To be assigned
Filed:	CONCURRENT HEREWITH	Docket No.:	796.415USW1
Title:	TESTING OF RADIO TRANSCEIVER		

CERTIFICATE UNDER 37 C.F.R. 1.10:
'Express Mail' mailing number: EL887039110US
Date of Deposit: November 13, 2001
The undersigned hereby certifies that this Transmittal Letter and the paper or fee, as described herein, are being deposited with the United States Postal Service 'Express Mail Post Office To Addressee' service under 37 CFR 1.10 and is addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231

By: Kari Arnold
Kari Arnold

PRELIMINARY AMENDMENT

Box Patent Application
Assistant Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

Please enter the following preliminary amendment into the above-referenced application.

ABSTRACT

Please insert the attached abstract into the application as the last page thereof.

CLAIMS

Please cancel claims 1-11 and add new claims 12-22 as follows. A clean copy of the new claims is included below.

12. (NEW) A method for testing the radio transceiver in a system where the transmission signal pass band, limited by the transmission branch filter of a duplex filter, and the reception signal pass band, limited by the reception branch filter, are adjacent so that the frequency response curves of said filters partially overlap at the stop band between the pass bands, wherein the steps of:

arranging a test loop between the transmission branch and the reception branch, wherein the test loop includes a TX coupling, a band pass filter, and a RX coupling, the test loop having essentially less attenuation on the test frequency than the duplex filter and thus a test signal proceeds via the test loop from the transmitter to the receiver,

tuning the transmitter's transmission frequency away from the transmission signal pass band to a test frequency that falls into the stop band of the transmission branch filter frequency response curve and the reception branch filter frequency response curve,

tuning the receiver reception frequency to the test frequency,

transmitting the test signal,

receiving the test signal which has been attenuated while passing through the test loop.

13. (NEW) A method for testing the radio transceiver in a system where the transmission signal pass band, limited by the transmission branch filter of a duplex filter, and the reception signal pass band, limited by the reception branch filter, are adjacent such that the frequency response curves of said filters partially overlap at the stop band between the pass bands, wherein the steps of:

arranging a test loop between the transmission branch and the reception branch, wherein the test loop includes a TX coupling, a switch, and a RX coupling, the test loop having essentially less attenuation on the test frequency than the duplex filter and thus a test signal proceeds via the test loop from the transmitter to the receiver when the switch having been closed by a switch control,

tuning the transmitter's transmission frequency away from the transmission signal pass band to a test frequency that falls into the stop band of the transmission branch filter frequency response curve and the reception branch filter frequency response curve,

tuning the receiver reception frequency to the test frequency,

transmitting the test signal,

receiving the test signal which has been attenuated while passing through the test loop.

14. (NEW) A method for testing a unit comprising several radio transceivers in a system where

the transmission signals are combined by a combiner into a sum signal and transmitted to the duplex filter, and the received sum signal containing various

frequencies is routed from the duplex filter to a divider that splits the signal containing different frequencies to be delivered to its receiver,

the pass band for the system transmission signal frequencies limited by the duplex filer transmission branch filter and the pass band for the system reception signal frequencies limited by the duplex filter reception branch filter are adjacent so that the filter frequency response curves partially overlap at the stop band between the pass bands, wherein the steps of:

arranging a test loop between the transmission branch and the reception branch, wherein the test loop includes a TX coupling, a band pass filter, and a RX coupling, the test loop having essentially less attenuation on the test frequency than the duplex filter and thus a test signal proceeds via the test loop from the transmitter to the receiver,

tuning the transmitter's transmission frequency away from the transmission signal pass band to a test frequency that falls into the stop band of the transmission branch filter frequency response curve and the reception branch filter frequency response curve,

tuning the receiver reception frequency to the test frequency,

transmitting the test signal,

receiving the test signal which has been attenuated while passing through the test loop.

15. (NEW) A method for testing a unit comprising several radio transceivers in a system where

the transmission signals are combined by a combiner into a sum signal and transmitted to the duplex filter, and the received sum signal containing various frequencies is routed from the duplex filter to a divider that splits the signal containing different frequencies to be delivered to its receiver,

the pass band for the system transmission signal frequencies limited by the duplex filer transmission branch filter and the pass band for the system reception signal frequencies limited by the duplex filter reception branch filter are adjacent so that the filter frequency response partially overlap curves at the stop band between the pass bands, wherein the steps of:

arranging a test loop between the transmission branch and the reception branch, wherein the test loop includes a TX coupling, a switch, and a RX coupling, the test loop having essentially less attenuation on the test frequency than the duplex filter and thus a test signal proceeds via the test loop from the transmitter to the receiver when the switch having been closed by a switch control,

tuning the transmitter's transmission frequency away from the transmission signal pass band to a test frequency that falls into the stop band of the transmission branch filter frequency response curve and the reception branch filter frequency response curve,

tuning the receiver reception frequency to the test frequency,

transmitting the test signal,

receiving the test signal which has been attenuated while passing through the test loop.

16. (NEW) A method in accordance with patent claim 14, wherein that the reception frequency of each receiver is tuned to the test frequency,

transmitting the test signal by one transmitter,

receiving the test signal by each receiver, and if at least one receiver receives the test signal correctly, it is assumed that a receiver receiving the test signal incorrectly is defective.

17. (NEW) A method in accordance with patent claim 14, wherein that

sending the test signal by the transmitters one by one,

receiving the test signal by several receivers,

inferring that the transmitter being tested is defective if at least one receiver has received the test signal sent by any other transmitter correctly and the transmitter being tested has received the test signal sent incorrectly or not at all.

18. (NEW) A method in accordance with patent claim 14, wherein that

sending the test signal by each transmitter one by one,

receiving the test signal by several receivers ,

inferring that the test loop between the transmitters and receivers is defective, if none of the receivers receives a signal sent on the test signal frequency.

19. (NEW) A system for testing the radio transceiver in a system that comprises

a transmission branch consisting of a functionally inter-connected transmitter and duplex filter and a reception branch consisting of a functionally inter-connected receiver and duplex filter, with the duplex filter limiting the transmission signal pass band and the reception signal pass band,

a test control tuning the transmitter and the receiver on the same test frequency as response to control and the transmitter sending the test signal,

wherein that it comprises:

a test filter that is connected between the transmission branch and reception branch and causing an attenuation on the test frequency that is essentially lower than the attenuation caused by the duplex filter, which enables the test signal to proceed

along the test loop from the transmitter to the receiver via a TX coupling, a switch, and a RX coupling, the test filter causing an attenuation on the transmission signal pass band and the reception signal pass band limited by the duplex filter being essentially higher than the attenuation caused by the duplex filter, which enables the transmission signal to proceed from the transmitter to the duplex filter and on to the antenna.

20. (NEW) A system for testing the radio transceiver in a system that comprises

a transmission branch consisting of a functionally inter-connected transmitter and duplex filter and a reception branch consisting of a functionally inter-connected receiver and duplex filter, with the duplex filter limiting the transmission signal pass band and the reception signal pass band,

a test control tuning the transmitter and the receiver on the same test frequency as response to control and the transmitter sending the test signal,

wherein that it comprises:

a test filter that is connected between the transmission branch and reception branch and causing an attenuation on the test frequency that is essentially lower than the attenuation caused by the duplex filter, which enables the test signal to proceed along the test loop from the transmitter to the receiver via a TX coupling, a band pass filter, and a RX coupling when the switch having been closed by a switch control, the test filter causing an attenuation on the transmission signal pass band and the reception signal pass band limited by the duplex filter being essentially higher than the attenuation caused by the duplex filter, which enables the transmission signal to proceed from the transmitter to the duplex filter and on to the antenna.

21. (NEW) A system in accordance with patent claim 19, wherein that the test frequency is outside the range of the transmission signal pass band of the duplex filter.

22. (NEW) A system in accordance with patent claim 19, wherein that the test filter is integrated within the duplex filter, in which case the test loop also includes the cabling between the transmitter and the duplex filter and the cabling between the duplex filter and the receivers.

REMARKS

The above preliminary amendment is made to insert an abstract page into the application and to enter new claims 12-22.

Applicant respectfully requests that this preliminary amendment be entered into the record prior to calculation of the filing fee and prior to examination and consideration of the above-identified application.

If a telephone conference would be helpful in resolving any issues concerning this communication, please contact Applicant's attorney of record, Michael B. Lasky at 952/912-0527.

Respectfully submitted,

Altera Law Group, LLC
6500 City West Parkway – Suite 100
Minneapolis, MN 55344-7701
952-912-0527

Date: November 13, 2001

By: ______________________

Michael B. Lasky
Reg. No. 29,555
MBL/blj